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FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE

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CONDENSATION FROM AIR CONDITIONING

Air conditioning can lead to moisture troubles if formation of a dew point causes atmospheric water to condense in wooden walls, floors, or ceilings.

So far, such hidden condensation has not been found extensively in air-conditioned buildings, but several instances are known where it has led to buckling of floors or even decay of subflooring and joists. The hot, humid climate of the Gulf South is most conducive to damage.

Of the preventive measures that a homeowner can take, the most important is to lower the inside temperature no more than necessary for reasonable comfort. With an outside temperature of 80° F., inside temperatures of 74, 69, and 65° will cause dew points with outside humidities of 80, 70, and 60 percent, respectively. At 86° outside, the corresponding dew-point temperatures are 79, 75, and 70°. Short periods at or below dew point are probably unimportant. Serious trouble has been found only where temperatures of 68 to 72° were maintained inside for several weeks.

Another safety measure is: Turn off the conditioner when it is not needed. No trouble is yet known where units are shut off at night.

Finally, if a moist crawl space is present, use a soil cover like 55-pound roll roofing, and provide

adequate ventilation (well-spaced vents whose openings total at least 1/160 the ground area of the building). --A.F. Verrall.

PREVENTING STICKER FAILURES IN DIRECT SEEDING

When standard repellents fail to protect pine seed from birds and rodents, the trouble is almost always traceable to incorrect handling of the sticker, with consequent rapid loss of the repellent in the field.

The two stickers recommended for direct seeding of southern pine are asphalt emulsion (Flintkote C-13-HPC) and latex (Dow Latex 512-R). Both are capable of bonding repellents to the seed firmly enough to resist prolonged exposure to sun, rain, and changing temperatures, but they must be stored and applied correctly. Here are the main precautions for using them:

Buy fresh materials each year. Both stickers deteriorate through long storage. If asphalt is caked in the container, or if solids have separated from the liquid latex, it will be impossible to recover the proper suspension by mixing.

Keep latex from temperatures below freezing or above 110° F., and do not store it in uncoated metal containers. It may safely be mixed in steel drums for seed treating, but if stored in them will react with the metal.

Use only clear, soft water to dilute the stickers. Hard water can break the emulsion. The dilution should be 1 part asphalt in 3 parts water, or 1 part latex to 9 parts water.

Apply repellents within 30 seconds after the seed has been removed from the sticker. Durability of either the asphalt or latex coating will be drastically reduced if seeds are allowed to drain for a longer time. DELAY IN APPLYING THE REPELLENT IS PROBABLY THE MOST FREQUENT CAUSE OF STICKER FAILURE.

Mix the sticker-coated seeds thoroughly with the repellent powder. Closed-drum tumblers or rotary mixers should be operated for at least 1 minute per batch.

Discard the diluted stickers after each day's operation and mix a fresh batch the next morning. Once mixed, the stickers can be safely stored for no more than 12 hours. --H.J. Derr.

DELAY IN RELEASE STUNTS LOBLOLLY GROWTH

Thirteen-year-old natural loblolly pines released at age 3 were twice as tall as those freed at age 8 but less than half the height of trees planted in the open.

These results were obtained in central Mississippi on two 35-acre blocks with ample advance reproduction from the 1947 seed crop. As it was desired to convert to even-aged management, half of each block was clear-cut in alternate strips in 1950. At this time the overstory ranged from 6 to 20 inches in diameter; basal area was 46 square feet per acre, and sawtimber volume 3,300 board feet, Doyle rule. The object of cutting alternate strips was to retain the seed source until reproduction was reasonably safe from fire. The remaining timber was cut in 1955.

In 1960, regardless of treatment, there was an abundance of well-distributed trees. The pines released at age 3 averaged 16 feet tall, in contrast to 8 feet for those freed at age 8. Thirteen-year-old plantations on similar sites average about 40 feet high. The response to delayed release resembles that experienced in other studies. Even seedlings suppressed only 3 years were considerably stunted.--W.C. Siegel.

FROST HEAVING RUINS SPOIL-BANK SEEDING

Near Tracy City, Tennessee, frost heaving during the past winter ruined an initially successful direct seeding of shortleaf pine on year-old spoil banks created by strip mining for coal. Alternate freezing and thawing of the exposed soil worked 94 percent of the seedlings out of the ground. Milacre stocking dropped from 93 to 16 percent.

Stratified, repellent-coated seed was sown in late March 1959 at the rate of 13,000 full seeds per acre. Initial catch was 5,400 seedlings per acre. By fall there were still 4,800 vigorous pines per acre, with tops averaging 2 inches and roots 6 inches long. Then freezing weather began, and by early January the area looked as if a vandal had pulled up the trees and dropped them on the ground. At winter's end the only survivors were those that had washed down-slope and had their roots accidentally re-covered with eroded material.

As natural revegetation of spoil banks often requires many years, a workable technique for seeding them is needed. Observations will be made to determine whether older, more stable banks are less subject to heaving.--T.A. Harrington.

LET PLOWED GROUND SETTLE BEFORE PLANTING PINES

Before pines are planted or sown on plowed land, enough time should elapse to allow rain to pack the soil and replenish moisture.

In east Texas, loblolly pines were planted in mid-January of 1959 on undisturbed soil, on fresh furrows, and on ground deeply plowed and disked early in October 1958. Rainfall from October to January was only 3.5 inches, and by planting time the plowed areas were noticeably drier than the others. The dryness probably reduced pine survival, which by April was 90 percent on plowed land, 98 percent on undisturbed sites, and 99 percent on furrows. -- J.J. Stransky.

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